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THE KENTUCKY WARBLER

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THE COVER

We thank Kathy Caminiti for the cover photograph of a Barred Owl (*Strix varia*) taken during the Fall 1998 KOS meeting at Kenlake State Park.

WINTER SEASON, 2002-2003

Fred M. Busroe

The weather during the Winter Season had an adverse affect on both the birds and birders. On December 5 and 6 rain, ice and snow (up to 7" of snow) occurred with single digit temperatures. The coldest weather in seven years occurred on January 23, with subzero wind chill and one to six inches of snow covering the state. February 14 to 16 saw heavy rain that caused flooding in southern Kentucky, while a severe ice storm caused extensive habitat damage from Lexington to Ashland. Among the more interesting observations reported was a Pacific Loon at Lake Peewee in Hopkins County, two Red-necked Grebes, and multiple reports of all three species of scoters plus Long-tailed Duck.

Publication of any unusual sightings in the seasonal report does not imply that these reports have been accepted as records for the official checklist of Kentucky birds. Observers are cautioned that records of out-of-season birds and all rarities must be accompanied with good details or documentation for acceptance. Documentation must be submitted to the Kentucky Bird Record Committee (KBRC). Decisions regarding the official Kentucky list are made by the KBRC and are reported periodically in *The Kentucky Warbler*.

Abbreviations – County names appear in *italics*; when used to separate dates, the “/” symbol is used in place of “and”; “ph.” next to an observer’s initials indicates that the observation was documented with photograph(s); “vt.” next to an observer’s initials indicates that the observation was documented on videotape; “*” next to an observer’s initials indicates that written details were submitted with the report; CBC = Christmas Bird Count; WMA = Wildlife Management Area; Ano = reclaimed surface mines near Ano, *Pulaski*; Barkley Dam = Barkley Dam, *Lyon/Livingston*; Barren = Barren River Lake, *Allen/Barren*; Bee Rock = Bee Rock Recreation Area, Daniel Boone National Forest, *Laurel*; Bernheim = Bernheim Forest, *Bullitt/Nelson*; Blood River = Blood River embayment of Kentucky Lake, *Calloway*; Cave Run = Cave Run Lake, *Rowan/Bath*; Cooley’s = Cooley’s Pond, *Wayne*; Dayton = Dayton, *Campbell*; Fishing Creek = Fishing Creek embayment of Lake Cumberland, *Pulaski*; Freeman = Freeman Lake, *Hardin*; Jonathan Creek = Jonathan Creek embayment of Kentucky Lake, *Marshall*; KyDam = Kentucky Dam, *Livingston/Marshall*; KyLake = Kentucky Lake, *Marshall/Calloway*; LBL = Land Between the Lakes, *Lyon/Trigg*; Little Lick = Little Lick Recreation Area, Daniel Boone National Forest, *Pulaski*; LkBarkley = Lake Barkley, *Livingston/Lyon/Trigg*; LkCumb = Lake Cumberland, *Pulaski/Russell/Wayne*; LkPeewee = Lake Peewee, *Hopkins*; Long Point = Long Point Unit Reelfoot National Wildlife Refuge, *Fulton*; Lower Hickman Bottoms = Lower Hickman Bottoms, *Fulton*; Markland = Markland Dam on the Ohio River, *Gallatin*; McElroy = McElroy Lake, *Warren*; MCFH = Minor Clark Fish Hatchery, *Rowan*; Meldahl = Meldahl Dam on the Ohio River, *Bracken*; Mt. Zion = Mt. Zion, *Pulaski*; Newport = Newport, *Campbell*; Paradise = Paradise Power Plant ash basin, *Muhlenberg*; Peabody = Peabody WMA, *Ohio/Muhlenberg*; Riverqueen = Riverqueen Unit of Peabody WMA, *Muhlenberg*; Rough River = Rough River State Resort Park, *Grayson*; Sauerheber = Sauerheber Unit of Sloughs WMA, *Henderson*; Short Creek = Short Creek, *Grayson*; Sinclair = Sinclair Unit of Peabody WMA, *Muhlenberg*; Waitsboro = Waitsboro Recreation Area on Lake Cumberland, *Pulaski*.

Pacific Loon – 1 was at LkPeewee on December 17 (vt.DR). KBRC review required.

Common Loon – small numbers (1-5) were observed on six CBCs (m. ob.); 1 at Fishing Creek on January 25 may have wintered (RD); also reported at Cave Run with 3 there on January 2 (FB) and 1 there on January 18 (GR).

Horned Grebe – 6 on December 23 at Cave Run near the dam (FB); 39 on December 25 at LkCumb, *Pulaski*, and 2 on January 8 on LkCumb, *Wayne* (RD); also 9 on January 13 on Cave Run near the dam (FB).

Red-necked Grebe – a bird was observed on LkBarkley at Boyd's Landing, *Lyon*, on December 14 (*MB). Among the most out-of-place (but also lucky) birds in recent memory must be the Red-necked Grebe that was "rescued" from the talons of a probable Red-tailed Hawk along KY 468 in rural *Pike*, on February 27 by Paul Evans, who was driving down the road and observed the raptor with prey in tow. The car apparently frightened the hawk into dropping the grebe, which was subsequently retrieved, rehabilitated, and released on nearby Tug Fork (*fide* CE, ph.PE). It is suspected that the grebe landed on wet pavement and became an easy target for the raptor, which must have grabbed it at the untimely moment when the observer's car was passing! KBRC review required.

American White Pelican – quite unusual was a bird on the Ohio R. at the mouth of the Licking R., *Campbell/Kenton*, on January 24 (JH, ph.FR); at least in part due to mild early-winter weather, impressive numbers remained on LkBarkley into mid-winter with 9 birds near Boyd's Landing, *Lyon*, on December 14 (MB); ca. 75 near Kuttawa, *Lyon*, on December 18 (DR); ca. 175 in two groups in *Lyon* on December 22 (DR); ca. 12 birds at the Silo Overlook, *Trigg*, on January 11 (ME); 55 on the Hurricane Creek embayment, *Trigg*, on January 13 (MO); and "good numbers" near the mouth of Little River, *Trigg*, on January 24 (ER). By February 20, ca. 350 had returned to north LkBarkley, *Lyon* (DR, DL).

Great Blue Heron – 13 on February 15 at Lee's Ford, LkCumb, *Pulaski* (SBC).

Great Egret – 2 were observed at Sinclair on January 4 (MB, SR) for a rare winter record.

Black-crowned Night-Heron – 4 birds lingered at Lexington at least to December 23 (SM) and were observed again January 30 (SM) and likely remained through the period.

Black Vulture – an impressive count of 275 birds was made at the roost at Rough River on January 29 (JP); also reported were 8 on January 18 in *Pulaski* (RD).

Turkey Vulture – an impressive count of 600+ birds was made at Barren on December 2 (DR); the next largest count was ca. 400 birds near Rough River on January 4 (KCI); also reported were 25 on December 17 at Rough River (JP); 18 on January 18 in *Pulaski* (RD); and 20 on January 29 at Rough River (JP).

Greater White-fronted Goose – ca. 140 at Ballard WMA, *Ballard*, on December 23 (BPB, *et al.*) and likely wintered there; 30 at McElroy December 28/30 (DR); 2 at Gibraltar WMA, *Muhlenberg*, on January 4 (MV, BD); 1 or 2 at Freeman on January 26 (RH); the winter flock at Long Point peaked at ca. 5,000 birds – a new record count for the state – on December 31 (DR) with ca. 3,000 reported on the official USFWS waterfowl survey on January 8 (*fide* CD); ca. 3,500 birds were observed January 1-15 at Sauerheber (MM) – also an all-time high count at that location; finally, a pair of birds was observed at Walton's Pond, *Warren*, on February 17 (DR).

Snow Goose – 1 on December 14 at Cooley's (RD).

Ross's Goose – single birds were observed as follows: a rural farm pond in southern *Ohio*, December 7 through the winter period (JB, PB, KOS; *m. ob.*); a rural farm pond near Maples Corner in west *Meade* on December 29 (JB, PB); Long Point on January 1 (BY); Germann's Pond, *Mercer*, January 15-16 (BK, NE, *et al.*); and the Reformatory Lake,

Oldham, January 17-19 (MS, *et al.*).

Canada Goose – there were scattered reports of single individuals and small groups of the “Richardson’s” race during the period.

Trumpeter Swan – 3 birds were at Sauerheber on December 17 (vt.DR). As expected, their origin – based on a trace of labels on the neck collars they wore – proved to be a Wisconsin reintroduction program (DR). Ornithological societies in a few mid-western states have acted to move these reintroduced, and seemingly now-established, populations of swans back into an “accepted” status for listing purposes. Such action has not yet been considered by the KBRC.

Tundra Swan – the apparently now regular wintering flock at Sauerheber returned in late-November, with a peak count of 23 birds during late December and early January (MM); 8 were still there on March 6 (SV, TS) with the latest observation about March 10-15 (MM). Also reported were 5 (2 ads. and 3 imms.) on December 9 on Cave Run near the dam (FB).

Wood Duck – the mild early winter period may have been responsible for more birds than normal lingering through the CBC period (reported on 12 CBCs) and into mid-winter (*m. ob.*); also reported were 4 on January 25 on LkCumb at Burnside, *Pulaski* (RD).

Gadwall – present through January at the Goose Pond adjacent to Cave Run, *Rowan*, with a high number of 100 on January 8 (FB); 49 on January 11 at Somerset (RD).

American Wigeon – 27 on January 25 at Cooley’s (RD).

American Black Duck – 25 on December 7 in *Mercer* (SBC).

Mallard – 400 on December 7 in *Mercer* (SBC).

Northern Shoveler – 50 were reported on the Lexington CBC on December 14 (ASK); 26 were on the Reformatory Lake, *Oldham*, on January 19 (BPB, AC); 100+ were at Long Point on February 15 (HC, ME); also reported were 1 on January 18 at Somerset (RD) and 1 male on February 12 on Cave Run near the dam (FB).

Northern Pintail – 3 on December 7 in *Mercer* (SBC); 3 on February 24 at MCFH (FB, LK); 1 on February 26 on the Ohio R. at Dayton (FR).

Green-winged Teal – 7 on January 25 at Fishing Creek (RD).

Canvasback – 30 on February 12 on Cave Run near the dam (FB).

Redhead – 3 on January 11 at Somerset (RD); 4 on February 25 on the Ohio R. at Dayton (FR); and 7 on February 26 at Taylor Park, *Campbell* (FR).

Ring-necked Duck – 10 on December 16 at the Goose Pond adjacent to Cave Run, *Rowan* (FB); 48 on January 8 at Cooley’s (RD).

Greater Scaup – small numbers were present during January and February on the Ohio R. in vicinity of Cincinnati, *Campbell/Kenton* (FR, *et al.*).

Surf Scoter – 4 were above Meldahl on December 3 (DR); and 2 were there on December 18 (FR).

White-winged Scoter – single birds were on the Ohio R. as follows: 1 at the Watertown Yacht Club, *Campbell*, on January 25-26 (BPB, *et al.*); 1 at Rabbit Hash, *Boone*, on February 9 (JS).

Black Scoter – single females/imms. were above Markland on December 14 (BPB, *et al.*) and on LkBarkley above Barkley Dam, December 22 and February 20 (DR).

Long-tailed Duck – a female/imm. was on the Ohio R. at the mouth of the Licking R., *Kenton/Campbell*, January 24-30 (FR, *et al.*); a male was at Meldahl on February 21 (WH).

Common Goldeneye – 1 on December 3 at Mt. Zion (RD); 2 on January 24 and 1 on January 28/29 on the Ohio R. at Newport (FR).

Hooded Merganser – 20 on December 16 at MCFH (FB); 12 on January 25 at Waitsboro (RD).

Common Merganser – 29 were on the Ohio R., *Gallatin*, on December 14 (KOS); 2 were at LkPeewee on December 17 (DR); small numbers were in the LBL area during the season (*m. ob.*).

Ruddy Duck – 3 on December 3 at Waitsboro (RD).

Osprey – latest report was a bird at Barren, *Barren*, on December 9 (DR).

Bald Eagle – 9 (7 at MCFH and 2 on Cave Run) on January 11 (LK, *et al.*); 4 on January 18 on LkCumb, *Russell* (RD).

Northern Harrier – 1 male on December 9 and a female on January 11 at MCFH (FB); 1 on December 17/30 and January 9 in *Grayson* (JP); 3 on January 5 at Peabody, *Ohio*; 3 on January 13 at Ano (RD, CN).

Sharp-shinned Hawk – 1 on February 19 at Dayton (FR).

Cooper's Hawk – 1 on January 5 in *Breckinridge* and 1 in *Grayson* during the third week of January (JP); 1 on February 21 at Dayton (FR).

Red-tailed Hawk – a number of western individuals were observed during the period; most interesting was a darkmorph *B. j. calurus* near Belleview, *Boone*, on January 20 (LM).

Rough-legged Hawk – small numbers of birds were reported from traditional areas during the season (*m. ob.*); a bird along I-64 in *Bath* on December 18 may represent a new county record (DS).

Golden Eagle – the traditional wintering area at Bernheim hosted at least 6 birds during the winter, as evidenced by a count of that many birds on January 15 (RM); a bird was seen on a reclaimed surface mine in *Martin* on January 17 (*CL); a juv. was observed at Riverqueen on January 30 (MV); an imm. near Taylorsville Lake, *Anderson*, on January 12, and perhaps the same bird again in *Spencer* on February 1 (*PG); and 1 on December 7 near McQuady, *Breckinridge* (JP).

Merlin – winter reports of this species have been on the increase over the last several years. Sightings during the season included 1 at McElroy on December 2 (DR); 1 at Peabody, *Ohio*, December 7 (JB, PB, *et al.*) – February 2 with 2 birds on the latter date (MV); 1 in *Pulaski* on December 8/11 (RD); 1 at Freeman on December 10 (DR); 1 at Blood River on December 28 (KOS); 1 in *Pendleton* on January 4 (NKBC); and 1 at Ano on January 12-13, with 2 there on the latter date (CN, RD).

Peregrine Falcon – resident nesting pairs were observed at Ghent, *Carroll*, on December 14 (KC, JC, *et al.*) and at Louisville on December 15 (BPB, AC). Another bird was reported from along State Line Road, Lower Hickman Bottoms, on February 19 (JW).

Sandhill Crane – small numbers of southbound birds continued to pass through into late December (*m.ob.*); first northbound birds were noted at Sinclair on January 11 (MV); an excellent late winter/early spring northward flight was witnessed with flocks regularly reported by the first week of February; by mid-February the spring flight was in full swing, but a period of about two weeks of nasty weather grounded perhaps the largest number of cranes ever to be “on the ground” in Kentucky in spring. Numbers were observed in a variety of locations during the latter two weeks of February. Most birds were seen in the traditional central Kentucky corridor, but at least a few were seen as far east as *Morgan* (MEm) and *Montgomery* (GR).

Lesser Yellowlegs – began showing up in February, with 1 at Dayton by February 21 (FR).

Least Sandpiper – as a result at least in part of mild weather, small numbers lingered into early winter, with latest observations including one at McElroy on December 2 (DR); 9 on December 14 at Jonathan Creek (HC); 1 at Barren, *Allen*, on December 25 (DR); 9 at

Blood River on December 28 (HC); and 1 at Sinclair on January 4 (MB, SR) with perhaps the same bird at Paradise on January 8 (MV). A flock of 12 birds at Blood River on February 12 may have been early returning migrants or wintering birds that had not been seen during mid-winter (HC).

Pectoral Sandpiper – quite unusual was a flock of 15 birds, presumably early returning spring migrants, at McElroy on February 22 (DR).

Dunlin – due at least in part to a mild early winter, a few birds lingered into December with 1 at Meng's Pond, *Warren*, on December 2 (DR); 3 at Jonathan Creek on December 14 (HC); and 5 at Blood River on December 28 (HC). Single birds at Blood River on February 13 (HC) and with the above-noted flock of Pectoral Sandpipers at McElroy on February 22 (DR) were likely early returning migrants.

American Woodcock – single birds were reported on the LBL and Mammoth Cave CBCs, both on December 14 (KOS); 2 were heard at West Kentucky WMA, *McCracken*, on December 23 (BPB, AC); 1 was heard in southern *Ohio* on January 4 (BPB, AC); 1 was seen in *Calloway* on January 26 (HC); 1 was heard at Mammoth Cave National Park, *Edmonson*, on February 5 (BPB); by mid-February, the species was present in good numbers.

Wilson's Snipe – 5 on February 17 at Somerset (RD).

Laughing Gull – single first-year birds lingered in western Kentucky as follows: 1 at KyDam on December 8 (HC); 1 each at KyDam and Barkley Dam on December 18 (DR); and 1 at KyDam on December 22/29 and January 15 (DR).

Bonaparte's Gull – peak count was 3,618 on the LBL CBC (ca. 1,000 at KyDam) on December 14 (*fide* HC); also reported were 9 on December 23/30 at MCFH (FB); and 82 on January 25 on LkCumb at Burnside, *Pulaski* (RD).

Ring-billed Gull – 700 on January 15 at Meldahl (FR); 526 on January 18 on LkCumb, *Russell* (RD); a high count of 400 on the Ohio R. at Newport was on February 19 (FR).

Herring Gull – 4 on January 31 on the Ohio R. at Newport (FR).

Thayer's Gull – an adult at Barkley Dam on December 22 (ph.DR); an adult and a first-year bird were observed at Barkley Dam on February 20 (vt.DR).

Lesser Black-backed Gull – small numbers lingered through the season as follows: a first-year at KyDam on December 8 (HC); an adult at KyDam on December 14 (MB, HC); an adult on LkBarkley, *Lyon*, on December 18 (DR); an adult at KyDam on December 22 (DR); a second-year bird at Barkley Dam and an adult on the Tennessee R. near Calvert City, *Marshall*, both on February 20 (DR).

Glaucous Gull – only 1 reported all winter was a first-year bird on KyLake above KyDam on December 18 (DR).

Forster's Tern – only report for the winter season was a bird at Jonathan Creek on January 7 (WL).

Barn Owl – 1 was reported from east *Calloway* in December (JTE).

Eastern Screech-Owl – 1 on January 13 at Little Lick (RD, CN); 1 on February 14 at Short Creek (JP).

Barred Owl – 3 on February 24 at Cane Creek WMA, *Laurel* (RD).

Short-eared Owl – peak winter counts were 18 birds at Sinclair in early December (P&SF) and 15-20 at Sinclair in early January (MV).

Northern Saw-whet Owl – 1 responded to a tape at Little Lick, on January 12 (RD, JD).

Ruby-throated Hummingbird – a hummingbird that was in poor health and captured at a Midway, *Woodford*, home in mid-November was rehabilitated over the winter, was determined to be a Ruby-throated (DM, BPB).

- Rufous Hummingbird** – 2 of 3 birds banded in November lingered well into winter, but both disappeared amidst the coldest weather of the season. The Danville bird was found dead at a perch on January 24 (NE, GE); the southern *Jefferson* bird was last seen on January 22 (D&MS). Another bird that was first observed in October, lingered to December 5 at Nicholasville, *Jessamine* (ph.SD). Photos of this individual confirmed it to be a Rufous/Allen's (BPB).
- Red-headed Woodpecker** – it was a good winter for the species in select areas, primarily in bottomland forest tracts where hickories and oaks produced significant mast. A total of 265 were counted on the *Ballard* CBC on December 23 (BPB, *et al.*). The species was also noted as present in above-average numbers in the Somerset area (RD), *Calloway* (HC), and LBL (ME, WL).
- Yellow-bellied Sapsucker** – 2 on December 22 at LkCumb WMA, *Pulaski* (RD); 1 on December 5 and January 27 at Short Creek (JP).
- Eastern Phoebe** – above-average numbers lingered into the winter including 1-5 birds on 15 CBCs; also reported were 1 on January 7 at Short Creek (JP) and 2 on January 11 at Little Lick (RD).
- Loggerhead Shrike** – relatively unusual for northern Kentucky was 1 in west *Boone* (Burlington CBC) on December 28 (LM); otherwise, the species was reported in small numbers at scattered localities including 1-5 birds on an additional eight CBCs; also reported was 1 on January 9 at Mt. Zion (RD).
- Common Raven** – 1 was observed being chased by 8 American Crows near Harlan, *Harlan*, on December 15 and on January 4 (FB).
- Horned Lark** – peak winter count was 800-1,000 birds at McElroy on December 2 (DR); also reported were 3 on December 7 at Dayton (FR); 50 on December 8 in *Pulaski* (RD); 15 on January 11 at Rough River (JP); and 25 on February 17 at Short Creek (JP).
- Barn Swallow** – the most interesting record of the winter for an out-of-season species was the presence of 2 individuals at Paradise January 4-9 (MB, HC, RD, SR, *BPB, vt.DR). This is a third winter record and first of more than one bird.
- Red-breasted Nuthatch** – very small numbers were reported this winter, with reports from only four CBCs; peak count was 8 birds on the Natural Bridge State Park CBC (which includes the area where a resident nesting population is established) on January 4 (ZW, *et al.*).
- House Wren** – 1 near Burnside, *Pulaski*, on January 1 (*SS, J&MY).
- Winter Wren** – 3 on December 1 at Bee Rock (RD).
- Sedge Wren** – 1 at Sinclair on January 4 (MB, HC, RD, SR).
- Marsh Wren** – single birds were reported on two CBCs as follows: 1 in cattails surrounding a pond at La Center, *Ballard*, on December 23 (HC, RDv) and 1 in cattails surrounding a pond near Rough River Lake, *Breckinridge*, on January 4 (KCI).
- Golden-crowned Kinglet** – 3 on December 1 at Bee Rock (RD).
- Gray Catbird** – 1 at Caperton Swamp Nature Preserve, *Jefferson*, on December 7 (MS); and 2 on the Louisville CBC on December 15 (BBC).
- Brown Thrasher** – 1 on February 12 at Mt. Zion (RD).
- American Pipit** – small numbers were reported at a variety of localities across central and west Kentucky through the period including on nine CBCs (*m. ob.*). More unusual reports for the season included 25 in *Lincoln* on December 7 (RD, SBC); and several near the Ohio R. in *Lewis* on January 20 (GR).
- Orange-crowned Warbler** – a presumed lingering fall migrant was observed at Mt. Zion on December 16 (RD).

- Yellow-rumped Warbler** – 25 on January 18 at Wolf Creek Dam, *Russell* (RD).
- Pine Warbler** – 3 were observed in a loose group in east *Muhlenberg* on January 4 (BPB, AC, RR); singles were reported on the Bowling Green and Mammoth Cave CBCs on December 14 and December 21, respectively (KOS); a bird came to suet at a feeder at Murray during late January and again in late February (ME). Returning birds began showing up in mid-February as evidenced by 1 at Owensboro on February 14 (MT).
- Palm Warbler** – latest lingering birds included 1 at Barren, *Allen*, on December 13 (DR), and 1 near Lebanon Junction, *Bullitt*, on December 22 (BPB).
- American Tree Sparrow** – the species showed up in small to moderate numbers this winter; 1-41 individuals were reported on 14 CBCs (*m. ob.*); also reported were 6 on December 18 at A.J. Jolly Park, *Campbell* FR).
- Chipping Sparrow** – as is now becoming traditional, small numbers of birds were reported at scattered localities across central and western portions of the state throughout the winter as follows: 4 at Bernheim, *Bullitt*, on December 10 (DR); at least 8 in east *Jefferson* on December 15 (BPB, AC); 2 east of Shepherdsville, *Bullitt*, on December 22 (MWm); 6 in south *Ohio* on January 4 (MWm); 9 at Wolf Creek Dam, *Russell*, on January 18 (RD); and 3 in *Warren* on February 23 (DR).
- Vesper Sparrow** – presumed lingering fall migrants were noted as follows: 1 in the Lower Hickman Bottoms on December 1 (DR); 2 at Cooley's on December 14 (RD); and 1 in northeast *Harrison* on December 25 (SM).
- Savannah Sparrow** – 3 on December 9 at LkCumb WMA (RD); 1 on February 21 and 3 on February 22 at Dayton (FR).
- Le Conte's Sparrow** – at least 2 birds were observed on the West Kentucky WMA, *McCracken*, on December 23 (BPB, AC).
- Fox Sparrow** – 1 on December 6 and January 27 with 2 on February 16/17 at a feeding station at Short Creek (JP).
- Swamp Sparrow** – 5 on December 10 at MCFH (FB); 2 on January 5 in *Breckinridge* (JP).
- White-crowned Sparrow** – 2 on January 27 and 5 on February 19 at a feeding station at Short Creek (JP).
- Lapland Longspur** – peak counts included new record high counts for the state as follows: 1,100+ at McElroy on December 2 (DR) and ca. 1,000 in the Lower Hickman Bottoms on December 30 (DR). The former record is anomalous in that the location is not a traditional one for large wintering numbers and no severe weather had occurred prior to the observation. Also reported were 1 in *Fayette* on December 6 (IS); 34 in *Logan* on December 28 (MB, *et al.*); at least 25 in west *Daviess* on January 1 (BPB, AC); at least 2 in northeast *Gallatin* on January 20 (LM); at least 2 in west *Boone* on February 24-25 (KC); and 4 in east *Jefferson* on February 28 (JB, PB). "Good numbers" lingered in the vicinity of McElroy into late February (DR).
- Snow Bunting** – single birds were reported at McElroy on December 2 (DR) and at Homestead WMA, *Ohio*, on December 7 (MW, DP).
- Rusty Blackbird** – 1 on January 18 at Mt. Zion (RD).
- Brewer's Blackbird** – the species was reported on three CBCs as follows: 3 at Camp Roy C. Manchester, *Marshall*, on December 14 (*fide* HC); 20 north of Berea, *Madison*, December 14 (SM); and 2 in west *Boone* on December 28 (LM, AE). The latter 2 represent rare records from the central part of the state.
- Purple Finch** – the species was perhaps reported in the smallest numbers it has EVER been recorded for a winter season; it appeared (1-30 birds) on only five CBCs. Peak count of 30 birds was on the Natural Bridge State Park CBC on January 4 (ZW, *et al.*).
- Pine Siskin** – the species was reported on only two CBCs (only 1 and 6 birds).

Contributors: Audubon Society of Kentucky (ASK); Beckham Bird Club (BBC); Jane Bell (JB); Pat Bell (PB); Mark Bennett (MB); Fred Busroe (FB); Joe Caminiti (JC); Kathy Caminiti (KC); Hap Chambers (HC); Kathryn Clay (KCI); Amy Covert (AC); Brad Davis (BD); Julie Denton (JD); Roseanna Denton (RD); Robert Dever (RDv); Sue Dickerson (SD); Clarke Dirks (CD); Melissa Easley (ME); Allen Easton (AE); Ginny Eklund (GE); Neil Eklund (NE); Mary Elam (ME); Joe Tom Erwin (JTE); Chris Evans (CE); Paul Evans (PE); Preston and Shari Forsythe (P&SF); Peggy Gould (PG); Jeff Hays (JH); Richard Healy (RH); Walter Herzog (WH); Bill Kemper (BK); Kentucky Ornithological Society (KOS); Lew Kornman (LK); William Lisowsky (WL); Charlie Logsdon (CL); Dick Lord (DL); many observers (*m. ob.*); Scott Marsh (SM); Debi Martin (DM); Lee McNeely (LM); Ronnie Moore (RM); Mike Morton (MM); Connie Neely (CN); Northern Kentucky Bird Club (NKBC); Mike O'Malley (MO); Brainard Palmer-Ball, Jr. (BPPB); Dakin Poland (DP); Joyce Porter (JP); Ed Ray (ER); Scott Record (SR); Frank Renfrow (FR); Gerald Robe (GR); David Roemer (DR); Robert Rold (RR); David Skinner (DS); Tim Slone (TS); Doris and Mac Smith (D&MS); Somerset Bird Club (SBC); Steve Stedman (SS); Jay Stenger (JS); Ian Stewart (IS); Matt Stickel (MS); Marilee Thompson (MT); Shawchy Vorisek (SV); Mark Vukovich (MV); Mary Walter (MW); Major Waltman (MWm); Zeb Weese (ZW); Jeff Wilson (JW); Ben Yandell (BY); Jim and Margaret York (J&MY).

— 437 Sunset Lane, Morehead, Kentucky 40351

**Kentucky Ornithological Society
2003 Spring Meeting
April 25 through 27, 2003
Blue Licks Battlefield State Park**

The Spring meeting of the Kentucky Ornithological Society was held April 25 – 27 at Blue Licks Battlefield State Park. President Kathy Caminiti called the meeting to order at 7:30 p.m. EDT on the 25th. Several first-time attendees were present at the meeting.

After introductory remarks, Vice President Hap Chambers and Lee McNeely unveiled the recently revised *Annotated Checklist of Kentucky Birds* by Brainard Palmer-Ball. Mr. Palmer-Ball secured two grants that greatly reduced the cost of publication of the new *Annotated Checklist*, and put a great deal of work into its publication. In recognition of his efforts, KOS presented him with a copy of the book *Amphibians and Reptiles of Kentucky* by Roger Barber, which completed Mr. Palmer-Ball's collection of the Roger Barber series.

Following this presentation, Hap Chambers introduced the first speakers of the evening, Beth Cuzio, Kentucky Department of Fish and Wildlife Resources (KDFWR) Water Bird Biologist and Shawchy Vorisek, KDFWR Partners in Flight (PIF) Coordinator. Ms. Cuzio discussed the goals of the North American Bird Conservation Initiative (NABCI) and its plans to conduct research for improving shorebird and waterfowl habitats in Kentucky and similar bird conservation regions. The NABCI goals include monitoring the management practices on management areas, developing a map of birds that use Kentucky during migration, and submitting data to the Manomet Center for Environmental Research for analysis. Shawchy Vorisek spoke about PIF's goal to identify species of Neotropical migrants and other land birds that are of concern in different physiographic areas in North America. PIF's objectives are to monitor and inventory bird populations in North America and create a

national database to compare data across states, and to conduct research in conjunction with other organizations, such as Murray State University, University of Kentucky, Eastern Kentucky University, and the Cornell Laboratory of Ornithology. PIF also aims to improve management of public and private lands to improve habitat conditions for birds, and to sponsor educational programs such as International Migratory Bird Day and the Salato Wildlife Educational Center. Ms. Voisek encouraged KOS members to become involved with PIF by volunteering for projects, reporting rookeries and eagle nesting sites and monitoring shorebirds.

Bob Russell, USFWS Midwest Shorebird Coordinator and Nongame Bird Biologist, spoke next on the Shorebird Plan for the Upper Mississippi region. Mr. Russell discussed conservation concerns for several bird species, including Greater Yellowlegs, Whimbrel, Buff-breasted and Upland Sandpipers, Short-billed Dowitcher, Wilson's Phalarope, Marbled Godwit, American Woodcock, and Piping Plover. Kentuckians were urged to help shorebird conservation efforts by participating in shorebird surveys and submitting data to Manomet. Mr. Russell also listed several other ongoing projects. One of these projects is a King Rail survey that is gathering data with the hope of eliminating the hunting of King Rails. He also discussed a recent project in which ultralight planes were used to train Whooping Cranes to fly along migratory routes to Florida in and attempt to establish an eastern population of the species.

The fourth and final speaker of the evening was Mark Vukovich, a graduate student at Eastern Kentucky University, who reported on his study of the abundance and reproductive success of Northern Harriers on reclaimed surface mines in Kentucky. Mr. Vukovich's study revealed that reclaimed mines provide important overwintering areas, migratory stopover sites, and hunting grounds for Northern Harriers and other raptor species. The suitability of these areas for Northern Harriers can be greatly affected by human disturbances (such as hunting and timing of management practices), the presence of terrestrial predators, and the suitability of nesting sites. Implications for land management indicated by Mr. Vukovich's study include continuous fire management to produce tall, dense grass that is beneficial to Northern Harriers, increasing education and enforcement on management areas, establishing wild areas and preserves where hunting is not allowed, and surveying predators.

The evening program concluded with a discussion of Saturday's scheduled field trips. The meeting attendees then enjoyed a social time together, with snacks and soft drinks. A display table of products manufactured by the Boggs Group of Nicholasville, Kentucky was set up so that the attendees could examine TBG products.

BIRDS OBSERVED AT THE SPRING 2003 KOS MEETING

Bird species observed in the vicinity of Blue Licks Battlefield State Park were: Common Loon, Double-crested Cormorant, Great Blue Heron, Green Heron, Black Vulture, Turkey Vulture, Canada Goose, Wood Duck, Mallard, Red-breasted Merganser, Osprey, Bald Eagle, Sharp-shinned Hawk, Cooper's Hawk, Red-shouldered Hawk, Broad-winged Hawk, Red-tailed Hawk, American Kestrel, Wild Turkey, Northern Bobwhite, Killdeer, Greater Yellowlegs, Lesser Yellowlegs, Solitary Sandpiper, Spotted Sandpiper, Ring-billed Gull, Herring Gull, Caspian Tern, Forster's Tern, Rock Dove, Mourning Dove, Chimney Swift, Ruby-throated Hummingbird, Belted Kingfisher, Red-bellied Woodpecker, Yellow-bellied Sapsucker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker, Pileated Woodpecker, Eastern Wood-Pewee, Eastern Phoebe, Great Crested Flycatcher, Eastern Kingbird, Loggerhead Shrike, White-eyed Vireo, Yellow-throated Vireo, Philadelphia Vireo, Red-eyed Vireo, Blue Jay, American Crow, Purple Martin, Tree Swallow, Northern Rough-winged

Swallow, Bank Swallow, Barn Swallow, Carolina Chickadee, Tufted Titmouse, Red-breasted Nuthatch, White-breasted Nuthatch, Carolina Wren, House Wren, Ruby-crowned Kinglet, Blue-gray Gnatcatcher, Eastern Bluebird, Wood Thrush, American Robin, Gray Catbird, Northern Mockingbird, Brown Thrasher, European Starling, Blue-winged Warbler, Tennessee Warbler, Northern Parula, Yellow Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Yellow-throated Warbler, Prairie Warbler, Black-and-white Warbler, American Redstart, Ovenbird, Louisiana Waterthrush, Kentucky Warbler, Common Yellowthroat, Yellow-breasted Chat, Summer Tanager, Scarlet Tanager, Northern Cardinal, Indigo Bunting, Eastern Towhee, Chipping Sparrow, Field Sparrow, Song Sparrow, White-throated Sparrow, Red-winged Blackbird, Eastern Meadowlark, Common Grackle, Brown-headed Cowbird, Orchard Oriole, Baltimore Oriole, House Finch, American Goldfinch, and House Sparrow for a total of 104 species for the weekend.

ATTENDANCE AT THE SPRING MEETING, 2003

ALEXANDRIA:	Mary Beth Lusby and Ron Lusby.
BEREA:	Kyle Powell, Art Ricketts and Tina Ricketts.
BOWLING GREEN:	Gary Boggs, Valerie Brown, Blaine Ferrell, David Roemer and Joan Roemer.
BURLINGTON:	Kathy Caminiti, Joe Caminiti, Joey Caminiti, and Lee McNeely
CADIZ:	Mabel Gray and Willard Gray.
CARLISLE:	Ginny Kingsolver, Wendell Kingsolver, and Brian Myres.
DANVILLE:	Neil Eklund and Virginia Eklund.
EDDYVILLE:	John Niemi and Phyllis Niemi.
ERLANGER:	Ed Groneman
FALLS OF ROUGH:	Joyce Porter and Doralee St. Claire
FRANKFORT:	Elizabeth Ciuzio, Amy Covert, and Shawchyi Vorisek.
HENDERSONVILLE:	Deborah Ventress.
LEXINGTON:	Rhonda Bryant, Shirley Davis, Wayne Davis, Phyllis Deal, Daniel Marsh, Scott Marsh, Bobbi Shain, Lou Shain, Marie Sutton, Jim Williams.
LOUISVILLE:	Richard Cassell, Bonnie Dever, Robert Dever, Katharine Fulkerson, Katharine Griswold, Mark Monroe, Brainard Palmer-Ball, Jr.
MIDWAY:	Ian Holn.
MOREHEAD:	Fred Busroe, Katie Busroe and Joanna Busroe.
MORGANTOWN:	Carroll Tichenor, Doris Tichenor.
MT. STERLING:	Gerald Robe.
MURRAY:	Happy Chambers.
NICHOLASVILLE:	Earl Boggs, Michael Boggs.
OWENSBORO:	Marilee Thompson, Wendell Thompson, Bill Tyler and Susie Tyler.
PROSPECT:	Win Ahrens.
RICHMOND:	Gary Ritchison, Brenda Thompson, and Pete Thompson.
RUSSELLVILLE:	Andrea Bennett and Mark Bennett.
SCIENCE HILL:	Roseanna Denton.
SOMERSET:	Connie Neeley.
HECTOR, AR:	Leif Anderson and Teresa Mathews.
SILVER SPRING, MD:	Vicki Wright.
WORTHINGTON, OH:	Patrick Boggs.

Passive Surveillance of West Nile Virus From Wild Birds of Kentucky, 2002

J.F. Roberts, M.L. Vickers, S.F. Sells, D.L. Watson, S.K. Billings, C.B. Jackson,
B.L. Palmer-Ball, Jr., L.R. Harrison, D.C. Bolin, R.C. Giles and M. Sebastian

Introduction

The human impact of the West Nile Virus (WNV) pandemic is well documented, but the environmental impact has not been fully assessed and may produce long-term effects on populations of wild animals. An estimated 200 species of birds, reptiles and mammals have been reported affected by the virus (Weiss 2002). When WNV entered the United States in 1999 by way of New York City, scientists at the Centers for Disease Control and Prevention (CDC) predicted the virus would spread to the West coast in less than five years (Enserink 2000). The virus has reached the Western United States and Canada in less than three years and will likely proceed to the tip of South America, perhaps impacting populations of tropical birds (CDC 2002). Currently the virus has been identified in over 138 species of birds in the United States (CDC 2002); ninety percent of reported WNV-infected birds, however, are either American Crows or Blue Jays (family: Corvidae) (Chow *et al.* 2002). Many other bird species were excluded from testing and it is now widely acknowledged that infectivity rates among species have been biased toward corvids. Although undetermined numbers of wild birds died during 2002, many more birds were infected and acted as transport and amplification hosts for the WNV (Lord and Day 2001).

From 1996 to 2000 four human epidemics of WNV have occurred worldwide. These epidemics occurred in southern Romania, the Volga Delta in southern Russia, Israel and the northeastern United States (Marfin and Gubler 2001). Unlike previously documented epidemics where thousands of rural inhabitants experienced asymptomatic or mild febrile disease, these recent urban epidemics have shown an increase in the number of severe or fatal human encephalitis cases (Hayes 1999). In the United States human clinical cases of WNV increased from 149 during 1999-2001 to more than 3,389 in 2002. In August of 2002 the United States experienced the peak of the largest mosquito transmitted avian amplified human viral epidemic ever documented in the Western Hemisphere (Chow *et al.* 2002). Of human cases reported in 2002, 241 people died (Chow *et al.* 2002). Previously the 1975 epidemic of St. Louis encephalitis virus, a close relative of WNV, had been the largest recorded mosquito borne viral human epidemic in the United States. That epidemic resulted in mortality of 170 people (Chow *et al.* 2002).

Mosquito populations are an essential factor determining the local infectivity of WNV. Of more than 88 species of mosquitoes tested, WNV has been detected in 36 mosquito species in the genera *Culex*, *Aedes*, *Anopheles*, *Psorophora* and *Ochlerotatus* (Chow *et al.* 2002). The common house mosquito, *Culex pipiens*, also the primary vector for St. Louis encephalitis virus, has been documented as the primary WNV vector (Hayes 1999). In the winter of 2000 WNV was isolated from dormant mosquitoes in underground sewers and abandoned buildings in New York City (Enserink 2000). Because mosquito activity is low during the winter, year-round transmission in Northern States is not likely. In Florida, however, where *Culex* spp. are more active in the winter, transmission of the virus may occur year round (Enserink 2000). In addition to mosquito transmission, non-vector transmission from a WNV infected carcass has been reported in raptors that consumed WNV-infected prey (Weiss 2002).

Recent WNV epidemics in Israel and the United States are the first to be associated with an increase in avian mortality (Marfin and Gubler 2001). The first avian cases of WNV in

the United States were detected in 14 species of birds at the Bronx Zoo, New York City, in the late summer and early fall of 1999 (Steel *et al.* 2002). Since WNV was first isolated in 1937 from a woman in Uganda, numerous isolates have been grouped into two lineages (I and II) (Hayes 1999; Marfin and Gubler 2001). The New York strain is type I and shares a high degree of homology with a WNV isolated from a goose in Israel in 1998. For this reason the origin of the virus that emerged in New York City in 1999 is thought to have originated from the Mediterranean area (Hayes 1999; Steele *et al.* 2000).

The first confirmation of WNV activity in Kentucky occurred in August 2001 from a horse submitted from Bourbon County. Of 504 avian specimens submitted from 85 Kentucky counties in 2001, 41 birds, including 14 American Crows, tested positive for WNV at the University of Kentucky Livestock Disease Diagnostic Center (UKLDDC) (Billings and Mahl 2002).

The CDC provided funding to most states for WNV surveillance programs. This included reporting of wild bird mortality and testing dead birds, along with the human, mosquito and equine surveillance components. In Kentucky, the program was coordinated by the Kentucky Department for Public Health (KDPH) (Division of Epidemiology and Health Planning) and involved cooperation from the Kentucky Department for Agriculture, the Kentucky Department of Fish and Wildlife Resources (Division of Wildlife, Wildlife Diversity Section), the UKLDDC and hundreds of concerned citizens.

Just a few years ago such a monitoring program for a viral disease would have been nearly impossible; however, thanks to the increased use of nucleic acid based testing, viruses can be quickly identified, closely related viruses can be differentiated and fewer virus particles are needed to make a positive test. Like other flaviviruses the WNV genome consists of a single-stranded RNA molecule. Reverse transcription polymerase chain reaction (RT-PCR) testing allows the molecular biologist to convert specific viral RNA sequences into DNA and then amplify the DNA until you have sufficient copies to detect the virus (Sells and Donahue 2003).

Methods

The KDPH provided directive in the form of instructions and shipping containers for submission of WNV-suspect dead birds. Samples were received from 115 of Kentucky's 120 counties. Concerned citizens collected the majority of birds, but veterinarians, Kentucky Department of Fish and Wildlife Resources employees, and raptor rehabilitators also submitted specimens. Birds were necropsied unless considered unsuitable for testing due to decomposition. Birds were not actively excluded because of obvious gross lesions or signs of trauma. Not all birds received were tested as available funding and resources precluded repetitive testing from counties where WNV already had been confirmed. After 1 September 2002 submission of birds was discouraged from counties where WNV had been identified.

All bird necropsies were performed in a biologic safety cabinet. Birds were labeled and tentatively identified at the time of necropsy. Photographs were taken of birds not readily identifiable and submitted to an ornithologist for identification. Brain, heart and kidneys were removed from the carcass during gross examination with sterile scissors. These tissues were pooled and homogenized prior to nested RT-PCR testing (Johnson *et al.* 2001). Samples of brain, heart and kidney were also placed in 10% formalin for histology processing. Initially brain, heart, and kidney were microscopically examined from all birds. After 10 August 2002, only organs from well-preserved specimens were taken for microscopic examination. Submission addresses were reviewed to identify birds submitted from the

same premises. Birds received from the same address during the same week were considered a group.

Table 1. Comprehensive Results of West Nile Virus Testing on Wild Kentucky Birds, 2002.

ALL GROUPS (1549 sampled: 696+, 853-)
WNV confirmed (+) in at least one individual

Anseriformes

Canada Goose, *Branta canadensis* (2+, 3-)

Falconiformes

Sharp-shinned Hawk, *Accipiter striatus* (1+)

Cooper's Hawk, *Accipiter cooperii* (3+, 6-)

Red-shouldered Hawk, *Buteo lineatus* (4+)

Broad-winged Hawk, *Buteo platypterus* (1+)

Red-tailed Hawk, *Buteo jamaicensis* (5+, 2-)

American Kestrel, *Falco sparverius* (5+, 1-)

Galliformes

Northern Bobwhite, *Colinus virginianus* (1+, 3-)

Columbiformes

Rock Dove, *Columba livia* (2+, 16-)

Mourning Dove, *Zenaidura macroura* (23+, 112-)

Cuculiformes

Yellow-billed Cuckoo, *Coccyzus americanus*
 (1+, 17-)

Strigiformes

Great Horned Owl, *Bubo virginianus* (6+, 1-)

Barred Owl, *Strix varia* (1+, 1-)

Apodiformes

Chimney Swift, *Chaetura pelagica* (1+, 2-)

Ruby-throated Hummingbird, *Archilochus colubris* (2+, 10-)

Piciformes

Red-headed Woodpecker, *Melanerpes erythrocephalus* (1+)

Downy Woodpecker, *Picoides pubescens* (1+)

Passeriformes

Tyrannidae

Eastern Kingbird, *Tyrannus tyrannus* (1+, 4-)

Corvidae

Blue Jay, *Cyanocitta cristata* (176+, 43-)

American Crow, *Corvus brachyrhynchos* (96+ 14-)

Hirundinidae

Barn Swallow, *Hirundo rustica* (1+, 4-)

Paridae

Carolina Chickadee, *Poecile carolinensis* (2+)

Tufted Titmouse, *Baeolophus bicolor* (3+, 1-)

Turdidae

Eastern Bluebird, *Sialia sialis* (18+, 3-)

Swainson's Thrush, *Cartharus ustulatus* (3+, 9-)

American Robin, *Turdus migratorius* (55+, 143-)

Mimidae

Gray Catbird, *Dumetella carolinensis* (1+, 12-)

N. Mockingbird, *Mimus polyglottus* (3+, 11-)

Brown Thrasher, *Toxostoma rufum* (1+, 1-)

Sturnidae

European Starling, *Sturnus vulgaris* (3+, 90-)

Bombycillidae

Cedar Waxwing, *Bombycilla cedrorum* (5+, 5-)

Parulidae

warbler sp. (1+, 7-)

Cardinalidae

Northern Cardinal, *Cardinalis cardinalis* (34+, 24-)

Icteridae

Red-winged Blackbird, *Agelaius phoeniceus* (1+, 3-)

Eastern Meadowlark, *Sturnella magna* (1+, 2-)

Common Grackle, *Quiscalus quiscula* (42+, 82-)

Fringillidae

Purple Finch, *Carpodacus purpureus* (1+, 3-)

House Finch, *Carpodacus mexicanus* (4+, 40-)

Passeridae

House Sparrow, *Passer domesticus* (141+, 117-)

Tested for WNV but not confirmed in the species.

Ciconiiformes

Great Blue Heron, *Ardea herodias* (2-)

Black Vulture, *Coragyps atratus* (2-)

Anseriformes

Mallard, *Anas platyrhynchos* (1-)

Galliformes

Virginia Rail, *Rallus limicola* (1-)

Sora, *Porzana carolina* (1-)

Charadriiformes

Killdeer, *Charadrius vociferus* (1-)

American Woodcock, *Scolopax minor* (1-)

Herring Gull, *Larus argentatus* (1-)

Strigiformes

Eastern Screech-Owl, *Otus asio* (1-)

Coraciiformes

Belted Kingfisher, *Ceryle alcyon* (1-)

Piciformes

Northern Flicker, *Colaptes auratus* (8-)

Passeriformes

Vireonidae

Red-eyed Vireo, *Vireo olivaceus* (1-)

Hirundinidae

Purple Martin, *Progne subis* (2-)

Table 1. Continued.

<u>Troglodytidae</u>	<u>Thraupidae</u>
Carolina Wren, <i>Thryothorus ludovicianus</i> (1-)	Summer Tanager, <i>Piranga rubra</i> (5-)
House Wren, <i>Troglodytes aedon</i> (4-)	<u>Emberizidae</u>
<u>Parulidae</u>	Chipping Sparrow, <i>Spizella passerina</i> (1-)
Magnolia Warbler, <i>Dendroica magnolia</i> (1-)	Song Sparrow, <i>Melospiza melodia</i> (1-)
Worm-eating Warbler, <i>Helmitheros vermivorus</i> (1-)	sparrow sp. (2-)
Ovenbird, <i>Seiurus aurocapillus</i> (2-)	<u>Cardinalidae</u>
Connecticut Warbler, <i>Oporornis agilis</i> (1-)	Blue Grosbeak, <i>Passerina caerulea</i> (1-)
Common Yellowthroat, <i>Geothlypis trichas</i> (1-)	Indigo Bunting, <i>Passerina cyanea</i> (2-)
Yellow-breasted Chat, <i>Icteria virens</i> (1-)	<u>Icteridae</u>
	Brown-headed Cowbird, <i>Molothrus ater</i> (4-)

Table 2. West Nile Virus RT-PCR results and histologic findings for species with sample size >10.

	# Birds Tested	#WNV+	%WNV	#Groups (#+,#-)	# Histology (#+,#-)	# Heart Lesions
Falconiformes (6spp)	28	19	68%	2+, 0-	6+, 5-	2+, 1-
Rock Dove	18	2	11%	0	0+, 6-	0
Mourning Dove	135	23	17%	0+, 2-	11+, 61-	1+, 0-
Yellow-billed Cuckoo	18	1	6%	0+, 1-	0+, 6-	0
Strigiformes (3spp)	10	7	70%	0	0+, 3-	0
Ruby-throated Hummingbird	12	2	17%	0	0+, 3-	0
Blue Jay	219	176	80%	1+, 2-	47+, 28-	12+, 1-
American Crow	110	96	87%	2+, 0-	32+, 16-	1+, 0-
Eastern Bluebird	21	18	86%	0	1+, 0-	0
Swainson's Thrush	12	3	25%	0	0+1-	0
American Robin	198	55	28%	1+, 3-	20+, 81-	9+, 17-
Northern Mockingbird	14	3	21%	0	0+, 3-	0
European Starling	93	3	3%	0+, 9-	3+, 62-	1+, 7-
Northern Cardinal	58	34	59%	0	5+, 9-	0
Common Grackle	124	42	34%	3+, 8-	16+, 57-	5+, 1-
House Finch	80	40	50%	1+, 2-	10+, 12-	0
American Goldfinch	14	6	43%	0	2+, 1-	0
House Sparrow	258	141	55%	3+, 6-	37+, 57-	8+, 1-

+ or - = West Nile Virus positive or negative by RT-PCR

#Histology = number of birds that had microscopic examination of the heart

1 Group = 2 Birds from the same address in the same week.

Results

The first WNV-positive birds detected in 2002 were two Common Grackles that died in Metcalfe County on 14 June. Subsequently, a total of 1,549 birds representing 69 species in 13 orders were tested for WNV by the UKLDDC in 2002 (Table 1). Of these, 696 (45%) showed positive tests for the presence of WNV (Table 1); those 696 individuals represented 40 species in nine orders (Table 1).

Presence of WNV varied within orders of birds. Raptors (Falconiformes and Strigiformes) represented by nine species, collectively, showed a high (68% [26/38]) incidence of WNV (Table 1). In fact, WNV infection was detected in almost all raptors submitted in August and September. The orders Anseriformes, Galliformes, Columbiformes, Cuculiformes, Apodiformes and Piciformes had low incidences of WNV, and WNV was not identified in the orders Ciconiformes, Gruiformes, Charadriiformes and Coraciiformes (Table 1).

Overall, the order Passeriformes was represented in WNV testing by 39 species in 17 families. Families also showed marked variation in susceptibility to WNV (Table 1). WNV was not identified from Passeriform families Vireonidae (vireos, 0/1), Troglodytidae (wrens, 0/5), Thraupidae (tanagers, 0/5) or Emberizidae (sparrows, 0/4). However, the Corvidae (crows/jays, 272/329), Paridae (chickadees/titmice, 5/6), Bombycillidae (waxwings, 5/10), Cardinalidae (cardinals/grosbeaks/buntings, 34/61), Fringillidae (47/98), and Passeridae (House Sparrow, 141/258) showed high (>50%) susceptibility.

For species of birds in which over ten individuals were tested, those with at least one WNV-positive result were separated into groups of *high incidence* of 65-100% (American Crow – 87% [96/110]; Eastern Bluebird – 85% [18/21]; Blue Jay – 80% [176/219]), *medium incidence* of 35-65% (Northern Cardinal – 58% [34/58]; House Sparrow – 55% [141/258]; House Finch – 50% [40/80]; American Goldfinch – 42% [6/14]), and *low incidence* of 3-34% (Common Grackle – 33% [42/124]; American Robin – 27% [55/198]; Swainson's Thrush – 25% [3/12]; Northern Mockingbird – 20% [3/14]; Gray Catbird – 8% [1/13]; European Starling – 3% [3/93]).

Three species (Common Grackle, European Starling and House Sparrow) were the most likely to be submitted to the UKLDDC in groups of two or more. Of the nine separate groups of European Starlings received, none contained WNV-positive birds. Six out of nine groups of Common Grackles and three out of six groups of House Sparrows were also WNV-negative (Table 1).

Of the 1,549 identified birds tested for WNV, limited histology of at least the heart and usually the kidney was performed on 650 birds. The brains of approximately 400 birds were also examined microscopically. More inclusive microscopic examination including lung, liver, pancreas, spleen and gastrointestinal tract was done on approximately 250 birds. Results of histologic examinations for species or orders containing >10 specimens is summarized in Table 2. Microscopic changes caused by WNV were often non-existent or difficult to detect. Inflammation of heart muscle (myositis) was the most commonly identified lesion. This microscopic change was only observed in approximately 20% of WNV-positive birds where microscopic examination of the heart was conducted (Table 2). Mild vacuolization and hemorrhage was observed in the brain of a few birds. Grossly, many WNV-positive birds had enlarged spleens. Splenic enlargement was confirmed microscopically by the observation of increased numbers of mononuclear inflammatory cells in the spleen (splenic leukocytosis or splenitis). Hepatitis (inflammation of liver) and nephritis (inflammation of the kidney) were observed in a few WNV-positive birds. American Robins were the species most likely to show severe myocarditis. Splenic leukocytosis was observed in American Crows, Blue Jays and American Robins. Myocardial lesions consistent with WNV infection in Passeriformes were observed in one WNV-positive Mourning Dove. Myocarditis and splenic leukocytosis were seen in one specimen of WNV-positive Downy Woodpecker that were comparable to changes observed in the American Robin.

Discussion

Varying rates of autolysis in each species may account for variation in WNV detection. In general, smaller birds were more often decomposed and microscopic examination was often not possible. Diagnosis of WNV in the Ruby-throated Hummingbird was of interest yet microscopic lesions from this infection could not be studied because of post-mortem autolysis. Of the 14,122 avian deaths nationwide attributed to WNV in 2002, 7,719 cases were crows (50%) (Chow *et al.* 2002). This number was biased by selection. Crows represented about 7% of birds submitted for testing at UKLDDC in 2002 and made up about 14% of

total WNV-positive birds. In late August and September 2002, raptor rehabilitators reported an influx of neurologic and dead birds (K. Caminiti, *pers. comm.*; E. Wicker, *pers. comm.*; Weiss 2002). Grossly, birds typically had prominent keel bone, serous atrophy of heart fat and an empty gastrointestinal tract. Almost 100% of these hawks and owls were WNV-positive. It has been speculated that raptors may become infected by consuming WNV-positive prey (Garmendia *et al.* 2000).

Variations in the infection rate could be influenced by multiple factors including biology of immunity, metabolism, behavior, habitat and method of transmission. European Starlings may be relatively resistant to WNV as the virus was only detected in 3% of a relatively large number (93) of submitted birds. Starlings are also resistant to a strain of avian influenza. When inoculated with Hong Kong-origin H5N1 avian influenza, starlings were seemingly unaffected while Zebra Finches died within two days (Perkins and Swaneyne 2001). House Sparrows have been suggested as likely amplification host for WNV. This species' abundance worldwide and its close association with human dwellings have also made it a likely choice to be used as free ranging sentinels. When House Sparrows were infected with the NY 99 strain of WNV by mosquito bite and bled at 24-hour intervals, most birds survived infection with the longest detectable viremia being six days. The average infectious viremia was 2.3 days (Komer *et al.* 2000).

Neutralizing antibodies for WNV were detected in 8.6% of 93 resident House Sparrows tested in October of 2000 on Staten Island, New York (Komer *et al.* 2001). In the Czech Republic where WNV is endemic, 5.5% of House Sparrows showed antibodies to WNV (Juricova *et al.* 2000). The presences of seropositive birds suggest that many birds survive WNV infection and may play an important role in the transmission (Komer *et al.* 2001).

Conclusions

In 2002 WNV was detected by nested RT-PCR in 696 birds representing 40 species of Kentucky's wild birds. This sample represents 45% of birds tested from 101 of the state's 120 counties. Microscopic changes observed in the heart, liver, kidney and spleen showed variation between individual avian species. Minimal microscopic changes were observed by examination of the brain with routine histopathological staining (H&E) in all species of WNV infected birds. American Crows had the highest incidence of WNV infection yet exhibited mild microscopic inflammatory changes, whereas American Robins had a lower incidence of WNV infection but often demonstrated severe inflammatory responses in multiple organs. Different orders and different families within orders exhibit markedly different incidence of WNV infection. Passeriformes with similar morphological characteristics exhibited similar infection rates. This was observed in families Corvidae, Fringillidae and Turdidae. The overall mortality of corvids and raptors submitted for necropsy at UKLDDC showed a direct correlation with diagnosis of WNV by RT-PCR.

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BOOK REVIEW**Notes on the Birds of the Big South Fork National River and Recreation Area and
Obed National Wild and Scenic River**

By Stephen J. Stedman and Barbara H. Stedman
Printing Services Tennessee Technological University
Cookeville, Tennessee
2002

146 pp. 12 black and white photographs, flexible cover

If you plan to visit the Big South Fork National River and Recreation Area and/or the Obed National Wild and Scenic River, this handy book is a treasure trove of information. It covers the ornithological history and avifaunal changes that occurred in these wild areas. This information is a helpful backdrop from which to view the accounts of present avifaunal occurrences. Climate, geology, habitats and a general description of the parks are also covered. In addition, a section covering information regarding the best birding trails, rivers for canoeing and other recreational pursuits is included. A major portion of the book is devoted to the occurrences of birds within the park. Several blank pages are included for taking notes. This book is ideal for anyone wanting to visit these two wild areas and interested in observing birds. Copies of the book may be obtained from the authors for \$15.00 plus \$2.00 postage and handling at 2675 Lakeland Drive, Cookeville, Tennessee 38506.

NEWS AND VIEWS**Kentucky Bird Records Committee**

Rare bird sightings and birds observed out of season should be well documented and the documentation should be sent to Lee McNeely, Secretary of the KBRC, P.O. Box 463, Burlington, Kentucky 41005, for consideration by the committee for official state record status.

Reminder of the Kentucky Rare Bird Alert Hotline

The number for the Kentucky Rare Bird Alert Hotline is (502)-326-0878. Please report any unusual sightings in order to provide others with the opportunity to see rare birds.

K.O.S Web Page

Visit the Kentucky Ornithological Society's web page at www.biology.uky.edu/kos.htm.

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